Effects of hysteresis of some solar indices

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During the past two cycles, researchers have been monitoring solar irradiance at many selected wavelengths in addition to maintaining more traditional indices such as sunspot number and the 10.7cm flux. Certain pairs of these indices exhibit hysteresis, solar cycle dependent differences in their relative variations. We study this hysteresis effect by using smoothed time series of some indices of solar activity including the solar flare index and LDE flare index. The solar flare index and LDE flare index are newly calculated by the authors for the cycles 21 and 22. Further we try to find that hysteresis effect is indeed a feature of solar activity during the past two cycles.

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